San Francisco Bay Conservation and Development Commission

Beneficial Use of Sediment

Status of Beneficial Use

In San Francisco Bay, wetland restoration projects have beneficially reused dredged sediment since the 1970's when the Faber Tract marsh was created. Dredged sediment has been used for decades in levee maintenance for flood protection, agriculture, and managed wetlands. Dredged sediment has also been used, along with upland soils for construction projects. Its use in wetland restoration projects is somewhat limited due to additional equipment requirements, water management, and cost involved to place it on site. Recently, restoration projects have started to use upland soil as base fill due to the availability of large quantities of these soils.

Currently, beneficial use of sediment is primarily limited to upland areas and those behind dikes, with few exceptions such as Middle Harbor Enhancement Project at the Port of Oakland. Some groups are advocating using dredged and other sediments to create marshes, beaches, and other shoreline features in areas that are currently mudflats or subtidal Bay in an effort to adapt to rising Bay waters.

Current BCDC

Policy Issues

- Commission policies limit in-Bay placement of dredged sediment for habitat purposes to a minor amount, until such time that Middle Harbor Project is proven a success.
- The Commission does not have the ability to prevent disposal of clean dredged sediment in the ocean.
- In-Bay placement of sediment to augment marshes through tidal action has not been tested.
- The physical process for sediment to be transported on to marshes, and the time necessary to see a benefit is poorly understood.
- It is unclear whether the impacts to existing habitat would outweigh the benefit.
- There is a mismatch between dredging practices and restoration and habitat needs.

Potential Solutions

Policy Options

- The Commission could disconnect the placement of dredging sediment for habitat restoration from Middle Harbor Enhancement Project.
- The Commission could consider adopting policies to further reduce ocean disposal of clean sediment.
- Pilot projects, at appropriate scales, could be encouraged to assist in understanding sediment pathways.
- An impacts/benefits analysis could be conducted to examine the trade offs of beneficial reuse and habitat conversion.
- Sediment stock pile areas could be developed to provide sediment on an as needed basis.

The Long Term Management Strategy for the Placement of Dredged Sediment in the Bay Region (LTMS) is a program that seeks to maximize the beneficially reuse of dredged sediment in restoration projects, levee maintenance, and construction projects where appropriate. This program also limits in-Bay disposal to a maximum of twenty percent annually (on a 3-year averaged basis). It allows ocean disposal of dredged sediment as a stop gap measure.

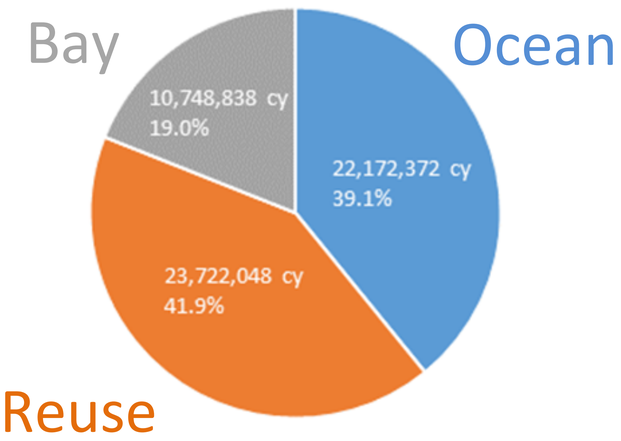
Source: Dai Sugano/Bay Area News Group/The Mercury News (2017)

Where does sediment and soil come from ?

Mud is available from navigation dredging in San Francisco Bay. On an annual basis dredging from navigation channels, berths, and marinas total between 2.5 and 4 million cubic yards of sediment.

Sand is mined from the Bay, with up to 1.14 million cubic yards currently authorized.

Upland Soil is available from construction sites, with available volume varying based on projects underway in any given year.



Discussion Questions

1. Is there anything about how this issue is framed that concerns you?
2. Considering this topic only, what do you envision would be a positive outcome for the region?
3. Would you identify this issue as your top priority to address in the short-term?